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First Named Inventor

Helmut Bentivoglio et al.

Art Unit

2875

Examiner Name

Ismael Negron

Attorney Docket Number

SCH-00069

**ENCLOSURES** (Check all that apply)☐

Fee Transmittal Form

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Fee Attached

☐

Amendment/Reply

☐

After Final

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Affidavits/declaration(s)

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Extension of Time Request

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Express Abandonment Request

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Information Disclosure Statement

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Certified Copy of Priority Document(s)

☐Reply to Missing Parts/  
Incomplete Application☐Reply to Missing Parts  
under 37 CFR 1.52 or 1.53☐

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Petition

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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name

Warn, Hoffmann, Miller &amp; LaLone, P.C.

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Philip R. Warn

Date

October 19, 2006

Reg. No.

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**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application No.: 10/607,923  
Filing Date: June 27, 2003  
Appellant: Helmut Bentivoglio et al.  
Group Art Unit: 2875  
Examiner: Ismael Negron  
Title: PROXIMITY SWITCH FOR AUTOMOTIVE  
INTERIOR MIRROR MODULE  
Attorney Docket: SCH-00069

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**REPLY BRIEF**

Sir:

This is a Reply Brief in response to the Examiner's Answer mailed August 21, 2006, in which a timely response is due by October 21, 2006.

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### **Status of Claims**

In response to the Applicant's response to Office Action mailed September 21, 2005, claims 1-10 and 23 were previously cancelled, pending claims 11-22 were finally rejected and are now currently the subject of this Appeal.

**Grounds of Rejection to be Reviewed on Appeal**

1. Whether the combination of U.S. Patent No. 5,880,538 to Schulz (hereafter Schulz '538) in view of U.S. Patent No. 5,820,245 to Desmond (hereafter Desmond '245) are properly combinable to render claims 11, 13-19 and 21 obvious under 35 U.S.C. § 103(a).

2. Whether the combination of U.S. Patent No. 5,880,538 to Schulz (hereafter Schulz '538) in view of U.S. Patent No. 5,820,245 to Desmond (hereafter Desmond '245) are properly combinable to renders claim 12 obvious under 35 U.S.C. § 103(a).

3. Whether the combination of U.S. Patent No. 5,880,538 to Schulz (hereafter Schulz '538) in view of U.S. Patent No. 5,820,245 to Desmond (hereafter Desmond '245) are properly combinable to renders claim 20 obvious under 35 U.S.C. § 103(a).

4. Whether the combination of U.S. Patent No. 5,880,538 to Schulz (hereafter Schulz '538) in view of U.S. Patent No. 5,820,245 to Desmond (hereafter Desmond '245) are properly combinable to renders claim 22 obvious under 35 U.S.C. § 103(a).

## **Response Arguments**

### **Whether Claims 11, 13-19, and 21 Are Rendered Obvious Under 35 U.S.C.**

#### **§103(a)**

##### **A. It Would Not Have Been Obvious To A Person Of Ordinary Skill In The Art To Combine The References**

The Examiner has stated under paragraph f. of the Response to the Appeal Brief that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the patent structure of the Schulz '538 patent to activate the reading lamps of Desmond '245 to be able to operate such lamps without actually touching them. The Response also indicated that this feature was specifically advantageous in low ambient lighting conditions (when small operative portions of conventional switches are hardly visible), or when the vehicle was in motion (when small conventional switches are difficult to target), as suggested by Schulz '538, or by the knowledge generally available to one of ordinary skill in the art.

However, nothing in the combination of references teaches or suggests activating lamps in lower lighting conditions without touching them. Schulz '538 does not teach or suggest using the capacity switch structure inside of a vehicle, much less to operate a lamp without actually touching the lamp; with this feature being advantageous in low lighting conditions as stated by the Examiner. Schulz '538 teaches or suggests a capacitive proximity switch circuit which may be used in an electronic activation circuit. *Col. 2, Lines 54-55*. Schulz '538 lists two examples of how the switch circuit could be used. When used in a locking control system, the capacitive proximity switch circuit is activated, thereby locking or unlocking a door, when a user's hand approaches the operating electrode of the circuit. *Col. 4, Lines 53-56*. The capacitive proximity switch may also be used for windshield wiper control. In this environment, the circuit may be activated when a sufficient amount of water approaches the operating electrode,

thus, causing the circuit to change switching states and initiating operation of the wipers. *Col. 4, Lines 59-65*. Schulz '538 describes the switch being used in a locking control system, or to actuate a device such as windshield wipers, and does not describe the switch for use in low lighting conditions, as stated by the Examiner. Additionally, these functions are for exterior functions of the vehicle, not for interior functions, such as an interior mirror module.

There is also no suggestion in Desmond '245 of incorporating a proximity switch, as taught by Schulz '538, to activate a lamp in low lighting conditions. Desmond '245 teaches switches 27, and 29 for operating the lamp assemblies 25,26 and a switch 28 for controlling operation of the mirror and the LED 23. *Col. 4, Lines 40-43*. The switches 27 and 29 of Desmond '245 do not have any features that would teach or suggest there being an advantage in low lighting conditions. There is no mention in Desmond '245 or Schulz '538 of using the switch structure of Schulz '538 to activate the lamps assemblies of Desmond '245 with the feature being advantageous in low lighting conditions, or when the vehicle is in motion, as asserted by Examiner. Thus, contrary to the Examiner, it would not have been obvious to one of ordinary skill in the art at the time the invention was made to use the patent structure of the Schulz '538 to activate the reading lamps of Desmond '245 to be able to operate such lamps without actually touching them.

B. There is No Motivation to Combine the References

Contrary to the Examiner's assertion, a person of ordinary skill in the art would not have been motivated to combine the switch structure of Schulz '538 to activate the lamp assemblies of Desmond '245. The Applicant has previously submitted the declaration of Mr. Volker Zipf. Mr. Zipf has worked for Schefenacker Visions Systems Germany GmbH and Co. Kg. for over four years in the electronic development department. *See Declaration ¶¶ 3*. Also, Mr. Zipf has been listed on several United States and German patent and/or applications relating to mirror and tail light development. *Id.* The Examiner stated in paragraph e. of the answer that the declaration of Mr. Zipf was insufficient to

overcome the rejection of claim 11. However, Applicant asserts that Mr. Zipf is a person having ordinary skill in the art, and disagrees with the Examiner's statements that the Declaration provides no rationale for the non-obvious opinion. In paragraph 10 of the Declaration, it states that the combined teachings of the '538 and '245 patents fail to teach, suggest, or motivate placing a switching device based upon the approach of a non-metallic object toward a sensor for use in an interior mirror module. Therefore, one of ordinary skill in the art would not have been motivated to combine the switch of Schulz '538 to activate the lamp assemblies of Desmond '245.

The Examiner also stated in paragraph e. that the Declaration, in section 6, lines 1 and 2, incorrectly characterized the patented structure of Schulz '538 as a switch for exterior vehicle applications. Applicant respectfully disagrees with this assertion. The Schulz '538 patent specifically teaches or suggests using the a proximity switch for a door lock, *Col. 3, Lines 30-34*, and windshield wipers, *Col. 4, Lines 62-64*. A door lock and windshield wipers are specific exterior uses for a vehicle. Thus, Schulz '538 does in fact teach or suggest that the patented switch structure of Schulz '538 is a switch for exterior vehicle applications.

#### C. Mr. Volker Zipf Is A Person Of Ordinary Skill In The Art

Mr. Volker Zipf is a person having ordinary skill in the art. The Applicant has previously submitted the declaration of Mr. Volker Zipf. Mr. Zipf has worked for Schefenacker Visions Systems Germany GmbH and Co. Kg. for over four years in the electronic development department. *See Declaration ¶ 3*. Also, Mr. Zipf has been listed on several United States and German patent and/or applications relating to mirror and tail light development. *Id.* The arguments by the Examiner provide no evidence to the contrary.

#### D. ON And OFF Signal

In response to the Applicant's argument that the cited references fail to teach or suggest, the evaluation electronics generating an ON signal from a first

approach and an OFF signal from a second approach, the Examiner states that in Schulz '538, the switching arrangement is recognized in the art as being a toggle switch system, such toggle switching system changing state only when approached by the user's hand. The first approach characterized by the user's hand moving toward the switching arrangement, and the second approach characterized by the user's hand moving away from the switching arrangement. Applicant respectfully disagrees with the Examiner with regard to Schulz '538 that a first approach would turn the signal ON, while a second approach would turn the signal OFF.

Schulz '538 does not teach a circuit having a first approach that would turn the signal ON, and a second approach would turn the signal OFF, as stated by the Examiner. Schulz '538 teaches or suggests that

When used in a locking control system, the capacitive proximity switch circuit is activated, thereby locking or unlocking a door, when a user's hand approaches the operating electrode of the circuit. One important feature of the invention is that the switching state of the circuit is unchanged when the user removes her hand from the vicinity of the operating electrode. *Col. 4, Lines 53-59.*

The circuit as taught by Schulz '538 can be used to perform an unlocking function as the user's hand approaches the operating electrode, or to perform an unlocking function as the user's hand approaches the operating electrode. If the circuit were to be used to perform a locking function, or the unlocking function, either of these functions would be accomplished by generating a first approach. The Schulz '538 patent does not teach or suggest using the circuit to perform an unlocking function along with a locking function as the user's hand approaches the circuit. The Schulz '538 patent also does not teach or suggest using the circuit to perform a locking function from a first approach, and then an unlocking function from a second approach. In order for Schulz '538 to apply to the present invention, the user moving her hand away from the operating electrode would be a second approach that would generate a turn OFF signal in a similar manner as claimed in the present invention. Schulz '538 specifically teaches or suggests that the circuit would remain unchanged. The Schulz '538 patent also states that the switch circuit could be used for windshield wiper control, and that the circuit may be activated when a sufficient amount of water approaches the operating

electrode, thus, causing the circuit to change switching states and initiating operation of the wipers. *Col. 4, Lines 61-64*. If the circuit operated in the manner as suggested by the Examiner, then the various individual water droplets approaching the operating electrode would constantly cause the operating switch to turn ON and OFF, which would be undesirable. The goal of the switch as taught by Schulz '538 is for the switch to become activated and remain unchanged once activated.

Desmond '245 does not teach or suggest a turn ON signal generated from a first approach and a turn OFF signal generated from a second approach. Desmond '245 is directed toward a manual push button switch. Therefore, the Examiner is incorrect in stating that Schulz '538 in view of Desmond '245 teach or suggest the evaluation electronics generating an ON signal from a first approach and an OFF signal from a second approach.

#### E. Modification Of Schulz '538 In View Of Desmond '245

To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). Although the Examiner may suggest the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the desirability of such modification. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir.1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989). If the prior art fails to provide this necessary teaching, suggestion, or incentive supporting the Examiner's suggested modification, the rejection based upon this

suggested modification is error and must be reversed. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d (BNA) 1566 (Fed. Cir. 1990).

In the Response to the Appeal Brief, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time of the claimed invention was made to combine the non-contact switch of Schulz '538 and the vehicle illumination device of Desmond '245 to equip such illumination device with a switch capable of being operated by the approaching hand of a user, as per the teachings of Schulz '538. Applicant respectfully disagrees.

As discussed above, and in the Appeal Brief, all of the embodiments described in Schulz '538 are for exterior automotive components and there is nothing to teach or suggest using the switching mechanism in the vehicle interior; nor is there anything that teaches or suggests associating the switching mechanism with a light. Also, there is nothing in the Desmond '245 patent that teaches or suggests a switching process based upon the approach of a non-metallic object toward at least one sensor as described in claim 11. Furthermore, the Examiner has not supported his combination of references by demonstrating where the references teach or suggest the combination. Instead, the Examiner maintains that such a combination would be obvious to one of ordinary skill without any support from the references.

#### **Whether Claim 12 Is Rendered Obvious Under 35 U.S.C. §103(a)**

Regarding claim 12, and in response to the Applicant's argument that the cited references fail to disclose, or even suggest, the evaluation electronics generating an ON signal from a first approach and an OFF signal from a second approach, the Examiner states that in Schulz '538, the switching arrangement is recognized in the art as being a toggle switch system, such toggle switching system changing state only when approached by the user's hand. Applicant respectfully disagrees with the Examiner that a first approach would turn the signal ON, while a second approach would turn the signal OFF.

Schulz '538 does not teach a circuit having a first approach that would turn the signal ON, and a second approach would turn the signal OFF, as stated by the Examiner. Schulz '538 teaches or suggests that

When used in a locking control system, the capacitive proximity switch circuit is activated, thereby locking or unlocking a door, when a user's hand approaches the operating electrode of the circuit. One important feature of the invention is that the switching state of the circuit is unchanged when the user removes her hand from the vicinity of the operating electrode. *Col. 4, Lines 53-59.*

The circuit as taught by Schulz '538 can be used to perform an unlocking function as the user's hand approaches the operating electrode, or to perform an unlocking function as the user's hand approaches the operating electrode. If the circuit were to be used to perform a locking function, or the unlocking function, either of these functions would be accomplished by generating a first approach. The Schulz '538 patent does not teach or suggest using the circuit to perform an unlocking function along with a locking function as the user's hand approaches the circuit. The Schulz '538 patent also does not teach or suggest using the circuit to perform a locking function from a first approach, and then an unlocking function from a second approach. In order for Schulz '538 to apply to the present invention, the user removing her hand from the operating electrode would be a second approach that would generate a turn OFF signal in a similar manner as claimed in the present invention. Schulz '538 specifically teaches or suggests that the circuit would remain unchanged. The Schulz '538 patent also states that the switch circuit could be used for windshield wiper control, and that the circuit may be activated when a sufficient amount of water approaches the operating electrode, thus, causing the circuit to change switching states and initiating operation of the wipers. *Col. 4, Lines 61-64.* If the circuit operated in the manner as suggested by the Examiner, then the water approaching the operating electrode would constantly cause the operating switch to turn ON and OFF, which would be undesirable. The goal of the switch as taught by Schulz '538 is for the switch to become activated and remain unchanged once activated.

Desmond '245 does not teach or suggest a turn ON signal generated from a first approach and a turn OFF signal generated from a second approach. Desmond '245 is directed toward a manual push button switch. Therefore, the

Examiner is incorrect in stating that Schulz '538 in view of Desmond '245 teach or suggest the evaluation electronics generating an ON signal from a first approach and an OFF signal from a second approach.

**Whether Claim 20 Is Rendered Obvious Under 35 U.S.C. §103(a)**

Regarding claim 20, and in response to the Applicant's argument that the cited references fail to disclose all the features of the claim invention, specifically the sensor being provided with a sensitivity adjustment to set the length of the approach distance for activating the switch circuit, the Examiner states that one of ordinary skill in the art would have recognized that adjusting the value of one of resistors 10, 11, and 14 would have changed the activation threshold of the patent switch circuit of Schulz '538.

Once again, there is nothing in the drawings, or specification of Schulz '538 that teaches or suggests at least one sensor is provided with a sensitivity adjustment that is used to set the length of the desired approach distance, as recited by claim 20. Schulz '538 states that operating electrode 2 is connected via coupling resistor 10 to the input of changeover contact 9, while compensation electrode 3 is connected via coupling resistor 11 to clock generator 8. The capacitive proximity switch shown also includes a storage capacitance 12 as well as charging resistor 12 and discharging resistor 14. *Col. 3, Lines 42-47*. There is also nothing in the specification or drawings of Schulz '538 that teach or suggest changing the value of the resistors to change the activation threshold of Schulz '538, as asserted by the examiner. Also, Desmond '245 does not mention any sort of sensitivity adjustment with regard to a sensitivity adjustment. Desmond '245 teaches a rearview mirror light that is controlled by a mechanical switch. *Col. 1, Lines 25-30, 59-60*. Therefore, the Examiner is incorrect in stating that one of ordinary skill in the art would have recognized that adjusting the value of one of resistors 10, 11, and 14 would have changed the activation threshold of the patent switch circuit of Schulz '538.

**Whether Claim 22 Is Rendered Obvious Under 35 U.S.C. §103(a)**

Regarding claim 22, and in response to the Applicant's argument that the cited references fail to disclose all of the features of the claimed invention, specifically the sensor being located in the lower corner region of the housing facing the driver, the Examiner states that replacing the switches 27 and 29 of Desmond '245 with the capacitive proximity switch circuit of Schulz '538 would have been an obvious modification, the resulting structure locating the sensor of Schulz '538 in the same position as the switches 27 and 29 of Desmond '245, as such location provides as intuitive and easy to trigger location. Applicant respectfully disagrees.

Claim 22 contains the element of at least one sensor located in the lower corner region of said housing. The element is not taught or suggested by Desmond '245, as stated by the Examiner. Desmond '245 teaches or suggests a mirror assembly 10 having a mirror case 11. *Col. 3, Lines 53-55*. On the bottom of the case 11, switches 27 and 29 are positioned for operating the lamp assemblies. *Col. 4, Lines 38-41*. As shown in Figure 1, the switches for the light assemblies as taught by Desmond '245 are in the central bottom portion of the mirror case 11. Desmond '245 does not teach or suggest having at least one sensor located in the lower corner region of the housing facing a driver. Desmond '245 in fact teaches or suggests having the switches 27,28 located at the bottom 24 of the casing 11. The manual switches as taught by Desmond '245 are positioned in the central bottom portion of the mirror housing for a reason, to provide optimal lighting. With the present construction, because less light is diffused into unwanted areas, more light is now directed into the target region. *Col. 6, Lines 11-13*. This results in an optically efficient lamp assembly that has a significantly higher illumination level. *Col. 6, Lines 13-15*. The lamp assemblies of Desmond '245 are constructed in a specific manner to provide optimal lighting, changing the position of the switches would alter the purpose of the invention as taught by Desmond '245. Thus, contrary to the Examiner, it would not have been an obvious modification to replace the switches 27 and 29 of Desmond '245 with the capacitive proximity switch circuit of Schulz '538.

### Conclusion

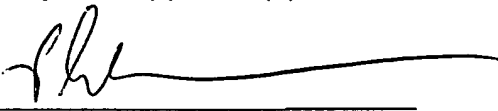
In conclusion, it would not have been obvious to one of ordinary skill in the art at the time of the invention to combine the proximity switch of Schulz '538 with the lamp assemblies of Desmond '245. These two references are not properly combinable. It has been shown that Schulz '538 teaches or suggests a capacitive proximity switch for use on exterior automotive feature such as door handles or windshield wipers. Schulz '538 does not teach or suggest using the capacity proximity switch in the interior of a vehicle, or for use with a lighting assembly. Additionally, Applicant has shown that Desmond '245 does not teach or suggest using a non-contact sensor as recited by the claims of the present application as a substitute for the manual switches.

Please send all future correspondence relating to this application to Warn, Hoffmann, Miller & LaLone, P.C., P.O. Box 70098, Rochester Hills, MI 48307.

Respectfully submitted,

WARN, HOFFMANN, MILLER & LALONE, P.C.  
Attorneys for Appellant(s)

P.O. Box 70098  
Rochester Hills, MI 48307  
(248) 364-4300

By:   
Philip R. Warn  
Reg. No. 32775

Dated: October 19, 2006

PRW:RPB:slm